



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/220,462	12/23/98	TONNA	C 4167-05

026584
OTIS ELEVATOR COMPANY
INTELLECTUAL PROPERTY DEPARTMENT
10 FARM SPRINGS
FARMINGTON CT 06032

TM02/1002

EXAMINER

MCALLISTER, S

ART UNIT

PAPER NUMBER

2167

DATE MAILED:

10/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/220,462

Applicant(s)
Tonna et al

Examiner
Steven B. McAllister

Art Unit
2167



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 17, 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 7-38 is/are pending in the application.
- 4a) Of the above, claim(s) 2, 7-15, and 22-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 17 20) ☐ Other:

Art Unit: 2167

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 9/17/01 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/220,462 is acceptable and a CPA has been established. An action on the CPA follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 16, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa view of Aulanko et al and Kershaw et al.

Yoshikawa discloses a car, at least one elevator door on the front face (see English abstract), first and second sheaves 12 disposed to the first and second sides of the door opening, a rope 13 forming a closed loop around the sheaves wherein the door is attached to the rope (see Fig. 1) and a drive motor 9a on the front portion of the car coupled to the elevator door.

Yoshikawa does not show that the motor is flat gear motor or integrated onto one of the sheaves.

Aulanko et al shows a flat motor integrated into a sheave (Fig. 1). It would have been obvious to

Art Unit: 2167

one of ordinary skill in the art to modify the drive apparatus of Yoshikawa by adding a flat motor integrated onto one of the sheaves as shown in Aulanko et al in order to save space and to simplify the drive system. Kershaw et al show a geared flat motor wherein the gear is drivingly coupled to the sheave (the sheave being coupled to output 55). It would have been obvious to one of ordinary skill in the art to further modify the apparatus of Yoshikawa by using the motor of Kershaw et al in order to reduce the size of the motor required to make the required torque.

As to claim 17, since the sheaves 12 are mounted on the front face of the elevator car, and since the flat motor is integrated into the sheave, Yoshikawa in view of Aulanko et al and Kershaw et al inherently disclose that the flat motor is mounted on the front face of the elevator car.

As to claim 21, Yoshikawa in view of Aulanko et al and Kershaw et al show all elements of the claim (see Fig. 1 of Yoshikawa).

4. Claims 16, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinobu (JP 4-06329375) in view of Kershaw et al.

Yoshinobu shows an elevator car 1 with a front face (see Fig. 6); elevator doors; first and second sheaves 8, 9 with a closed loop rope in between (see Fig. 6); a drive motor 13 on a front portion of the car driving one of the sheaves via a pulley (see Fig. 6). Yoshinobu does not show that the motor is a flat geared motor or directly drives the sheave so as to be integrated onto the sheave. Kershaw et al show a geared flat motor. It would have been obvious to one of ordinary

Art Unit: 2167

skill in the art to modify the apparatus of Yoshinobu by replacing the pulley driven reduction system of Yoshinobu with the flat geared motor of Kershaw et al in order to drive the sheave 8 and eliminate the failure mode of the pulley 15. It is noted that replacing the pulley reduction system as stated results in a system where the sheave 8 is attached directly to the output of the motor of Kershaw et al, integrating the motor onto the sheave and having the gear drivingly couple to the sheave.

As to claim 17, it is noted that the apparatus of Yoshinobu in view of Kershaw et al discloses that the flat motor is mounted on the front face of the car between its upper and lower edges.

As to claim 21, it is noted that the apparatus of Yoshinobu in view of Kershaw et al shows all elements of the claim (see Fig. 6 of Yoshinobu).

5. Claims 18-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinobu in view of Kershaw et al as applied to claim 17 above, and further in view of Kappenhagen.

Yoshinobu in view of Kershaw et al inherently shows a header bracket in order to hold the drive apparatus (sheaves 8, 9, drive motor, etc.) between the upper and lower edges of the elevator car. They show an elevator door hangar in front of the car (see Fig. 6 of Yoshinobu) and the flat drive motor in front of the car. They do not explicitly show that the door hangar is in front of the motor. Kappenhagen shows such a configuration. It would have been obvious to one

Art Unit: 2167

of ordinary skill in the art to further modify the apparatus of Yoshinobu by placing the hangar in front of the drive motor provide more room for clearance and to facilitate ease of maintenance.


As to claim 19, it is noted that the header is inherently above the top of the door opening since extending lower would cause interference and in order to support the required items, it extends generally between first and second sides of the door opening.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven B. McAllister whose telephone number is (703) 308-7052.


Steven B. McAllister

September 27, 2001

 10/01/01
ROBERT P. OLSZEWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600-2100